

## CLAIMS

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1. A polymer which has been modified to render it hydrophobic by amidification of a hydrophilic polymer backbone by one or more n-alkylamines, the alkyl chains of which contain 6 to 22 carbon atoms.
2. A polymer according to claim 1, characterized in that the n-alkylamine is a di-n-alkylamine.
3. A polymer according to claim 2, characterized in that the di-n-alkylamine is di-n-dodecylamine.
- 10 4. A polymer according to any one of the preceding claims, characterized in that the hydrophilic polymer backbone is a homopolymer or copolymer based on monomers selected from acrylic acid, methacrylic acid or any other alkyl derivative substituted in the  $\beta$  position of the acrylic acid or esters of these acids obtained with mono- or polyalkyleneglycols, acrylamide, methacrylamide, vinylpyrrolidone, itaconic acid, maleic acid, 2-acrylamido-2-methylpropane-sulfonate (AMPS), styrene-4-sulfonic acid or vinyl-sulfonic acid.
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- 20 5. A polymer according to claim 4, characterized in that the hydrophilic backbone is a sodium polyacrylate.
- 25 6. A polymer according to claim 5, characterized in that the mass average molecular mass of the sodium polyacrylate is in the range 50,000 to 2,000,000, preferably in the range 100,000 to 1,500,000.

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*Cont,*

7. A polymer according to claim 4, characterized in that the hydrophilic backbone is a statistical copolymer of an acrylate and 2-acrylamido-2-methylpropanesulfonic acid (AMPS).

*Sub a'*

- 5 8. A polymer according to claim 7, characterized in that said statistical copolymer comprises in the range 30 mole % to 70 mole % of AMPS per mole of acrylate.

- 10 9. A polymer according to any one of the preceding claims, characterized in that the effective degree of modification of the polymer is in the range 0.10 to 0.50 moles of n-alkylamine per mole of hydrophilic polymer.

- 10 10. The use of a polymer according to any one of claims 1 to 8 to stabilizing emulsions.

- 15 11. The use of a polymer according to any one of claims 1 to 9, to stabilizing petroleum or analogous drilling fluids, in particular drilling, fracturing, acidizing or completion fluids.

*Add a<sup>2</sup>*

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